

Questions under docket number OP-1625 and responses from Kalypton Group Limited

Kalypton is a technology provider based in the UK. We have invested substantial time and effort in bringing modern IT tools and a deep appreciation of regulatory requirements to the challenge of updating payment systems such that they can satisfy the expectations of all stakeholders.

The process which the Federal Reserve Board has facilitated has been exemplary in its openness and inclusiveness; from the establishment of objective criteria to the evaluation of proposals to the creation of a framework within which a world leading infrastructure can be created.

A unique aspect of this particular process has been a crystal-clear understanding of the role that the market can play and the limited areas in which the FRB should consider stepping in to create anticipated outcomes for all stakeholders.

Kalypton commends the FRB for restraint in stepping in. We trust that these comments underpin the strong, fact-based arguments for stepping in to the degree explored within this consultation.

1. Is RTGS the appropriate strategic foundation for interbank settlement of faster payments? Why or why not?

Yes. If the Board intends to achieve its goal of a real-time 24×7×365 faster payments service for retail users, where recipients receive their funds in real-time as soon as the payers or transferors have executed their transactions, then RTGS is the appropriate strategic foundation for interbank settlement. We would go further and say that it is the only strategic foundation for interbank settlement if the Board intends to achieve its goal of a genuine real-time 24×7×365 faster payments service for retail users that meets the criteria set out by the Faster Payments Task Force. That faster payments service should support both “push” and “pull” payments.

A DNS system cannot support a real-time 24×7×365 faster payments service. The credit and liquidity risks, that are the settlement risks identified and discussed in the RFC and by the Bank for International Settlements in its report ‘*Real-Time Gross settlement Systems*’, arise from the very nature of deferred settlement systems. Pre-funded accounts in a DNS system do not remove those risks, especially in the case where a payment organization becomes insolvent before the deferred settlement, as questions will arise as to who holds the rights to the funds in the prefunded accounts. The requirement to prefund the accounts instead imposes a considerable cost barrier to smaller payments operators.

The settlement risks posed by DNS systems are significant. In its discussion of those risks, the report from the Bank for International Settlements referred to the Lamfalussy Report that set out six standards and principles that a DNS system should include to manage those risks as and when they occur. They do not eliminate those risks (see page 28 of our response to the FRB Faster Payments Qualified Independent Assessment Team (QIAT) appended to our proposal to the Faster Payments Task Force¹). As the report from the Bank for International Settlements makes clear –

“RTGS systems can contribute substantially to limiting payment system risks. With their continuous intraday final transfer capability, RTGS systems are able to minimize or even eliminate the basic interbank risks in the settlement process.

More specifically, RTGS can substantially reduce the duration of credit and liquidity exposures. To the extent that sufficient covering funds are available at the time of processing, settlement lags will approach zero and so the primary source of risks in intrabank funds transfers can be eliminated. Once settlement is effected, the receiving bank can credit the funds to its customers, use them for its own settlement purposes in other settlement systems or used them in exchange for assets immediately without facing the risk of the funds being revoked.”

By minimizing or eliminating settlement risks, a real-time 24×7×365 RTGS settlement system will remove the cost barriers to small and medium-sized operators, and so encourage competition in payment services. Allied to that, the ability to clear and settle payments in real time will enable those operators to develop and implement innovative services that simply cannot operate efficiently on the legacy architecture that underpins payments today. As we discussed in our proposal to the Faster Payments Task Force and on pages 24 to 34 and pages 37 to 38 of our response to the questions from the QIAT, it is to remove the settlement risks and encourage competition and innovation that we proposed a real-time 24×7×365 RTGS settlement system as the foundation for a real-time 24×7×365 faster payments service.

2. Should the Reserve Banks develop a 24×7×365 RTGS settlement service? Why or why not?

Whether or not the Reserve Banks should develop a 24×7×365 RTGS settlement service will depend on whether a private sector entity would be willing to develop a 24×7×365 RTGS settlement service that it is willing to operate as a service that will be genuinely open to all operators. If so, then the Reserve Banks may only need to develop a liquidity management service to support the RTGS service, along the lines of one or more a joint account that enable the settlement service operator to settle transactions between banks on and between private ledgers. If not, then the Reserve Banks will need to develop that RTGS service.

In either event, it is essential that the Reserve Banks play a central role in the design and operation of the service if it is to achieve widespread acceptance.

3. If the Reserve Banks develop a 24×7×365 RTGS settlement service,

- a. Will there be sufficient demand for faster payments in the United States in the next ten years to support a 24×7×365 RTGS settlement service? What will be the sources of demand? What types of transactions are most likely to generate demand for faster payments?**

The phrase “faster payments” is misleading. Payments via modern infrastructure should be more secure, more frictionless and less expensive as well as faster than legacy services.

Any number of payment types will migrate to a greater or lesser extent to a modern platform. This includes payment types that currently don’t exist or are not currently digital – like smaller payments replacing cash, micropayments via the Internet of Things, business payments replacing checks and payments by the unbanked.

- b. What adjustments would the financial services industry and its customers be required to make to operate in a 24×7×365 settlement environment? Are these adjustments incremental or substantial? What would be the time frame required to make these adjustments? Are the costs of adjustment and potential disruption outweighed by the benefits of creating a 24×7×365 RTGS settlement service? Why or why not?**

We imagine that users of real-time 24×7×365 faster payments services will only do so voluntarily. It follows that adjustments will be offset by benefits. Equally, the industry will only adopt real-time 24×7×365 faster payments services if they see a business case to do so. This is the benefit of the market-led approach that the Board and the industry have taken as opposed to the centrally mandated approach in some other jurisdictions. We talk to the business case for change in the answer to point 3.e below and we propose that the Board takes the lead in constructing the business case for change at the industry level, if not the level of individual institutions.

- c. What is the ideal timeline for implementing a 24×7×365 RTGS settlement service? Would any potential timeline be too late from an industry adoption perspective? Would Federal Reserve action in faster payment settlement hasten or inhibit financial services industry adoption of faster payment services? Please explain.**

The Board should set an aggressive timeline for implementing a 24×7×365 RTGS settlement service. The initial goal of the Faster Payments Task Force was to implement a real-time 24×7×365 faster payments service by the end of 2020. We suggest that the Board extend that period by one year to begin implementing a liquidity management tool by the end of 2020 (see our responses to points 4, 5, and 6 below) and a 24×7×365 RTGS settlement service by the end of 2021. The industry will take its lead from the Board. Without that lead, the danger is that the idea of a 24×7×365 RTGS settlement service will fall into the trap of being viewed as a public good.

If the real-time 24×7×365 faster payments services are architected correctly, then they can act as an overlay to any existing DNS settlement service and help to migrate the underlying settlement service to a 24×7×365 RTGS settlement service without disrupting the faster payments services. We discuss such a scenario on pages 29 to 33 of our response to the QIAT.

- d. What adjustments (for example, accounting, operations, and agreements) would banks and bank customers be required to make under a seven-day accounting regime where Reserve Banks record and report end-of-day balances for each calendar day during which payment activity occurs, including weekends and holidays? What time frame would be required to these changes? Would banks want the option to defer receipt of such information for nonbusiness days to the**

next business day? If necessary changes by banks represent a significant constraint to timely adoption of seven-day accounting for a 24x7x365 RTGS settlement service, are there alternative accounting or operational solutions that banks could implement?

This is dependent on the state of the banks' internal systems. Correctly designed, a real-time 24x7x365 faster payments service, and the underlying 24x7x365 RTGS settlement service, will account for and audit each transaction in real-time. The data these services generate for a transaction will be delivered to each of the parties involved in that transaction in real time. Whether those parties can process that data in real-time, or whether they need to batch the incoming data will depend on their systems. Banks should not defer the receipt of that information as that will create reporting and audit risks that the real-time 24x7x365 faster payments service and the underlying 24x7x365 RTGS settlement service are designed to minimize or eliminate.

The liquidity management tool that will support the 24x7x365 RTGS settlement service may or may not require manual intervention within a bank (see point 5 below), for example, if that bank requires one or more officers to transfer funds between its accounts. Again, how that bank manages those issues are an internal matter.

- e. **What incremental operational burden would banks face if a 24x7x365 RTGS settlement service were designed using accounts separate from banks' master accounts? How would the treatment of balances in separate accounts (for example, ability to earn interest and satisfy reserve balance requirements) affect demand for faster payment settlement?**

See our response to point 3.d above. Correctly designed, automated liquidity management tools and the accounting systems that the real-time 24x7x365 faster payments service and the underlying 24x7x365 RTGS settlement service will manage the accounts (and the transfers between them).

We feel that this question is talking to the business case for banks to adopt usage of a real-time 24x7x365 RTGS settlement service. This needs to be explored in the round.

In their global banking review 2018, McKinsey state that:

- Global bank RoE is running at 9.0%
- Bank price to book ratios are structurally low at 1.0
- The figures reflect, inter alia, stockholder concerns about banks' ability to withstand the challenge of FinTechs and to survive an impending industry shakeout

We note that the Reserve Banks would be required to recover the costs of operating a real-time 24x7x365 RTGS settlement service. We speculate that those costs need not be materially higher than for legacy DNS settlement and that they would deliver significant systemic benefits in the form of reduced capital intensity, reduced operating risks and simpler, more effective regulatory oversight of operations.

We would like to see the Reserve Banks perform an economic analysis of the business case for new 24x7x365 RTGS settlement service and liquidity management tools in the expectation that widespread adoption could be proven to be advantageous to all banks and their stockholders.

f. **Regarding auxiliary services or other service options,**

- i. **Is a proxy database or directory that allows faster payments services to route end-user payments using the recipient's alias, such as e-mail address or phone number, rather than their bank routing and account information, needed for a 24x7x365 RTGS settlement service? How should such a database be provided to best facilitate nationwide adoption? Who should provide this service?**

A proxy database is not required to support a 24x7x365 RTGS settlement service. A real-time 24x7x365 faster payments service will require a proxy database or directory service, but that will be at the user level, rather than the clearing and settlements level. What is important is that the proxy database does not contain any personal information or account information. If the proxy database service receives a lookup for an ID, then it will simply point to the payment service operator that services that ID.

A user may use more than one unique ID type and the faster payments service will need to support the databases that serve each of those IDs. The structure of the proxy database will depend on the ID type that the database provides. A service that uses cell phone numbers will require one structure, one that uses landline numbers another, while services that use email addresses will require an entirely different structure. Another service could use numbers akin to PANs.

Each payment service operator would be responsible for updating the proxy databases with their users' IDs. Each payment service operator would hold the information that relates each ID that it services to the user who is linked to that ID and the user's accounts.

The payment scheme operator would be responsible for managing the proxy databases themselves. If there are numerous payment scheme operators, then they can jointly manage the proxy databases, or establish an independent organization to manage those databases.

We illustrate how the proxy database services may function and some of the services that they could support on pages 15 to 29 and pages 60 to 99 of our proposal to the Faster Payments Task Force.

ii. Are fraud prevention services that provide tools to detect fraudulent transfers needed for a 24×7×365 RTGS settlement service? How should such tools be provided? Who should provide them?

No. As with proxy databases, such tools are needed to detect fraudulent transfers at the payment services layer. We would expect payment service providers to use fraud prevention tools as a matter of course, irrespective of whether they provide a real-time 24×7×365 faster payments service. If constructed correctly, and with the correct proxy database service, the faster payments service will enable real-time end-to-end authentication and so enable the operators to meet their KYC and AML requirements in real-time.

The real-time end-to-end authentication will also enable the users to see their transactions in real time and to trace the progress of those transactions if those transactions incur a delay. One example of the latter would be where a user transfers funds to another in a peer-to-peer remittance where the recipient does not collect his or her funds until sometime after the transferor has initiated a transaction. Another would be where a user transfers funds to another user who is not yet registered with a faster payments service (see page 33 of our response to the QIAT). A third might be where an operator needs to delay a transaction in order to perform additional regulatory checks (see page 43 of our proposal to the Faster Payments Task Force).

iii. How important are these auxiliary services for adoption of faster payment settlement services by the financial services industry? How important are other service options such as transaction limits for risk management and offsetting mechanisms to conserve liquidity? Are there other auxiliary services or service options that are needed for the settlement service to be adopted?

The proxy database service will be an integral component of the faster payments service that the settlement service will support. Other services, such as transaction limits for risk management are down to the individual payment service providers, who will set those levels to meet their requirements.

g. How critical is interoperability between RTGS services for faster payments to achieving ubiquity?

The criteria set by the Faster Payments Task Force included the ability for faster payments services to interoperate with each other, and this is crucial. However, the ability to interoperate must not be limited to the lowest common denominator of functionality between different faster payments services.

The domestic market in the United States is huge, with around 11,000 banks and credit unions. In the unlikely event that only one faster payments service provider emerges, the question of interoperability will be as relevant as if a number of faster

payments services emerge, especially if the faster payments service fulfils the criteria set by the Faster Payments Task Force and enables operators or third parties to create new payments functions and services that are additional to those of the faster payments service itself.

If a single faster payments service emerges that meets the criteria, then it will be a single technology that provides a baseline set of services, which individual operators can add to or develop further if they wish. As these would communicate with a common protocol, payments services would interoperate for all baseline services, with operators choosing to support the additional services developed by other operators if they wished to do so. As the criteria also included the ability to switch accounts, users could easily switch between providers if those providers failed, or if they did not provide the services the users required.

If more than one faster payments service emerges that meet the criteria, then they must be able to interoperate to ensure that users of one service can transact easily with users of another on a real-time 24x7x365 basis. Again, to foster competition, the services should provide a common set of baseline services that interoperate fully and be free to compete with additional services.

- h. Could a 24x7x365 RTGS settlement service be used for purposes other than interbank settlement of retail faster payments? If so, for what other purposes could the service be used? Should its use be restricted and, if so, how?**

Yes, a 24x7x365 RTGS settlement service will solve the settlement risks in DvP and PvP transactions, such as in securities and foreign exchange trades. We do not believe that there is any need to restrict a 24x7x365 RTGS settlement service to payments only.

- i. Are there specific areas, such as liquidity management, interoperability, accounting processes, or payment routing, for which stakeholders believe the Board should establish joint Federal Reserve and industry teams to identify approaches for implementation of a 24x7x365 RTGS settlement service?**

Probably, but the specific requirements will emerge as the project progresses.

- 4. Should the Federal Reserve develop a liquidity management tool that would enable transfers between Federal Reserve accounts on a 24x7x365 basis to support services for real-time interbank settlement of faster payments, whether those services are provided by the private sector or the Reserve Banks? Why or why not?**

Yes, if the tool provided the functionality listed in point 5 below. A real-time 24x7x365 faster payments service will if designed correctly prevent a user from making a transaction where that transaction is not backed by sufficient funds in that user's accounts or an approved credit line. Thus, the faster payments service should provide payment service providers with greater

certainty when it comes to modelling their payment flows. However, that will not obviate the need for a liquidity management tool.

The approach to use separate RTGS settlement accounts or one or more specialized joint settlement accounts that are separate from their master accounts is one that will require a liquidity management tool. The liquidity management tool will be necessary irrespective of whether the Federal Reserve or a private sector operator provides the real-time 24×7×365 RTGS settlement service. That tool must enable transfers between Federal Reserve accounts on a 24×7×365 basis. To do otherwise would prevent the faster payments service from operating in a real-time 24×7×365 capacity. As the RFC correctly states, without a 24×7×365 liquidity management tool, the system would run the risk of failed payments due to insufficient liquidity.

The Board should not consider extending its provision of daylight overdrafts to cover out-of-hours liquidity requirements in a 24×7×365 RTGS settlement service. While daylight overdrafts might have a place to cover funding requirements in a standard DNS settlement system, they and similar instruments have no place in a real-time 24×7×365 RTGS settlement service or in a secured-DNS or Lamfalussy-plus system used as an interim (see page 29 of our response to the QIAT). The use of daylight overdrafts or similar instruments would lead to potential exposures and liquidity risks that the 24×7×365 RTGS settlement service is designed to minimize or eliminate.

Secured-DNS or Lamfalussy-plus systems share some features of standard DNS settlement systems, in that actual settlement is deferred. However, they use mechanisms to minimize the settlement risks that bedevil DNS systems and should be viewed as interim steps towards a real-time 24×7×365 RTGS settlement service. They are useful in that they are more secure than DNS settlement systems, but they must not take the place of a real-time 24×7×365 RTGS settlement service.

5. If the Reserve Banks develop a liquidity management tool,

a. What type of tool would be preferable and why?

i. A tool that requires a bank to originate a transfer from one account to another

Yes, if the intention is to enable banks to automatically transfer funds from their master accounts to their RTGS settlement accounts, or between their accounts and a joint settlement account (see response to point 2 above).

ii. A tool that allows an agent to originate a transfer on behalf of one or more banks

Yes, where those banks settle via a joint account (see response to point 2 above). The agent must be acting as the official agent of the bank (or the non-bank where the non-bank is a payments service provider).

iii. A tool that allows an automatic transfer of balances (or “sweep”) based on pre-established thresholds and limits

Yes, as this would enable banks to settle transactions by transferring funds between their master and settlement accounts automatically during operating hours or after hours. A 24×7×365 RTGS settlement service will require a real-time 24×7×365 liquidity management tool.

The automatic transfer mechanism will need to notify the relevant officers and systems in the banks in question as the transfers take place.

iv. A combination of the above

Yes. A combination of all three will provide a comprehensive set of approaches to manage the liquidity of a real-time RTGS settlement system.

v. An alternative approach

The liquidity management tool must enable the Reserve Banks to extend its functionality to support other approaches to manage liquidity in the 24×7×365 RTGS settlement service as and when payments service providers develop new services that require those approaches.

b. Would a liquidity management tool need to be available 24×7×365, or alternatively, during certain defined hours on weekends and holidays? During what hours should a liquidity management tool be available?

Yes. A 24×7×365 RTGS settlement service will require a real-time 24×7×365 liquidity management tool.

c. Could a liquidity management tool be used for purposes other than to support real-time settlement of retail faster payments? If so, for what other purposes could the tool be used? Should its use be restricted and, if so, how?

Yes. See our response to point 3.h above.

6. Should a 24×7×365 RTGS settlement service and liquidity management tool be developed in tandem or should the Federal Reserve pursue only one, or neither, of these initiatives? Why?

The liquidity management tool should be developed immediately, as the 24×7×365 RTGS settlement service will require that tool’s functionality, irrespective of whether the Federal Reserve or the private sector develops that service.

- 7. If the Federal Reserve pursues one or both of these actions, do they help achieve ubiquitous, nationwide access to safe and efficient faster payments in the long run? If so, which of the potential actions, or both, and in what ways?**

Yes. They will help achieve ubiquitous access as the Board's actions will drive the industry. See our responses to points 2 and 3 above.

- 8. What other approaches, not explicitly considered in this notice, might help achieve the broader goals of ubiquitous, nationwide access to faster payments in the United States?**

See our comments above about allowing the market to capture the economic value enabled by the Reserve Board's investment in critical enabling infrastructure.

- 9. Beyond the provision of payment and settlement services, are there any other actions, under existing authority, the Federal Reserve should consider that might help its broader goals with respect to the U.S. payment system?**

Establishing a real-time 24x7x365 faster payments service and a real-time 24x7x365 RTGS settlement service over and above those payments and settlement services already in place is an extremely challenging project. It requires continuing dialog among those committed to make reality the goals of the Faster Payments Task Force. The big unknowns are how to ensure continuing relevance for smaller institutions, and to enable the ambitions of non-bank service providers and those of other somewhat disenfranchised user groups. Currently, many observers are alert to the possibility that large banks will create a market structure that primarily meets their objectives. Establishing a faster payments system as envisaged by the Federal Reserve will prevent that from occurring.

Lars Davies CEO
Alun Thomas COO
Kalypton Group Ltd
12/13/2018

¹ <https://fasterpaymentstaskforce.org/wp-content/uploads/kalypton-vs.pdf>